Unpacking the challenges of Implementation of Single-use Plastic Ban in India - An Exploratory study of Plastic Retailers in Selected cities of Uttar Pradesh

Synopsis

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1. Introduction

Plastic initially emerged in the first half of the 20th century and began to gain strength with polyethylene in the 1930s. Businesses also began to use it in the production of consumer items. Its widespread use in society has social, economic, and environmental effects. It is versatile and useful material. It is relatively inexpensive and protects our food and medicines from their surroundings.

1.1. Plastic: A Threat

Plastic is not threat in itself but when Plastic is broken into small particles, known as micro plastics, which pollute our food, air, and water. The majority of Plastic isn't biodegradable, which is a problem. It can remain in the environment for hundreds of years because it doesn't degrade like paper or food does**. 400 million tonnes of plastic are generated each year, and 40% of that is Single-use Plastic (OECD Global Plastic Outlook, 2017)**. As the world's capacity to deal with the fast rising output of disposable plastic goods becomes overwhelmed, plastic pollution has emerged as one of the most urgent environmental challenges.

1.2. Plastic Pollution

Plastic pollution is a concerned at Global level. Around **7 billion of the 9.2 billion tonnes** of plastic manufactured between 1950 and 2017 were converted to plastic garbage and buried or sent to landfills **(United Nation Environment Programme).**

Plastic pollution has the potential to modify ecosystems' capacity to adapt to climate change, altering habitats, natural processes, and social and economic well-being for millions of people. The entire planet, including people, animals, and aquatic life, is being negatively impacted by plastic pollution. To avoid it as soon as possible, we must all be aware of the negative effects it has on our life. Aquatic, terrestrial, and migratory animals all throughout the world are being harmed by plastic pollution.

1.3. Impact of Plastic Pollution

- **Impact on Human Health**Along the whole plastic lifespan, humans is exposed to a wide range of hazardous compounds and micro plastics through ingestion, and direct skin contact. Even research's evidence suggests that the contaminants and harmful chemical additions present in plastics pose a global threat to human health.
- **Impact on Environment-** Our environment has been severely harmed by plastic pollution. Plastic

waste from the industry may significantly contribute to environmental pollution. This data reveals that Plastic-based toxins and chemical additions cause greenhouse gas emissions and climate change.

- **Impact on Tourism-** Urban and terrestrial tourism can also contribute to marine plastic pollution, with significant volumes of this debris ending up in rivers and travelling to oceans and beaches. It spoils the destination's reputation and decreases the sector's revenue.
- **Impact on Agriculture-** These tiny plastic particles have the potential to alter the earth's structure and reduce its ability to retain water. Leaching chemical additives from plastics into the soil can have an effect on food supply chains and have negative health effects.
- **Impact on Animals-** Unbelievably, the amount of land-based plastic debris that enters the ocean is expected to increase in less than 20 years. Ocean wildlife is negatively impacted by plastic pollution because ingesting plastic can block digestive systems or penetrate vital organs in wildlife.

1.4 Plastic Pollution Problem at Global level

The world is experiencing a global plastic crisis. **According to Geyer et al., Science Advance 2017,** 79% of the 8.3 billion tonnes of plastic produced since the 1950s ended up in landfills, while 9% is recycled and the remaining 12% is incinerated. **According to one widely quoted estimate,** 100 million to 250 million metric tonnes of plastic could enter the ocean each year by 2025. Mismanaged waste is much more prevalent in low-to-middle-income countries. It necessitates a global integrated solution.

Table 1: Here are Five Countries with most plastic pollution

1.	**India**	**12,994,100 Tons**
2.	**China**	**12,272,200 Tons**
3.	**Philippines**	**4,025,300 Tons**
4.	**Brazil**	**3,296,700 Tons**
5.	**Nigeria**	**1,948,950 Tons**

(Source: Science Advance, 2022)

1.5 Global roadmap for reducing Plastic Pollution

Plastic pollution is a major issue on a global scale. This appeals for support in creating a practical pathway to eradicate plastic pollution by the year 2040 from international organisations, civil society, academia, business, industry, and finance. Peru, Rwanda, Norway, and the European Union, with all

175 nations took part at the United Nations Environment Assembly (UNEA-5) meeting in Nairobi in March 2022.The Intergovernmental Negotiating Committee, whose work will begin in 2022, is the foundation for the resolution, which aims to stop plastic pollution by the year 2024.

1.6 Plastic pollution in India

Despite having lower per capita consumption than the majority of other developing and developed countries, India's plastic consumption has been steadily increasing. As India generates 3.5 million metric tonnes of plastic waste each year **(CPCB Report, 2019)**. **According to the Plastic Industry Status Report 2021,** India's plastic demand was 20.89 million tonnes in 2016, and it is expected to exceed 22 million tonnes by 2023. **According to the Plastindia Foundation,** per-capita plastic use in India is only 20 kg, as opposed to 108 kg in the United States, 56 kg in China, and 30 kg as the global average.

Table.2: Top 10 Plastic waste generation state in India is given as below:-

S No.	State	Plastic Waste in metric tons per annum
1.	Maharashtra	4,43,724
2.	Tamil Nadu	4,31,472
3.	Gujarat	4,08,201
4.	West Bengal	3,00,236
5.	Karnataka	2,96,380
6.	Telangana	2,33,654
7.	Delhi	2,30,525
8.	Uttar Pradesh	1,61,147
9.	Haryana	1,47,733
10.	Kerala	1,31,400

(Source: www. Stattista.com, 2022)

1.7. Initiatives by Indian Government to decrease Plastic pollution

1. **Plastic Waste Management, 2011-** This rule brought concept of Extended Producer Responsibility to manage the plastic waste. They collect the used multi-layered plastic packaging and carry bags. It focused on collection Centres and recycling the plastic waste.
2. **Swachh Bharat Mission, 2014-** It was country wide campaign initiated by Government of India on **2 October, 2014** to eliminate open defecation and improve solid waste management. The aim of this mission was to accelerate the efforts to achieve universal sanitation coverage and to put focus on safe sanitation.

3. **Plastic waste management, 2016-** It was the second action that Indian government took. The minimum thickness of plastic carry bags and sheets was increased, the collect back system was implemented, the jurisdiction of applicability was expanded, a fee was introduced, the responsibility of waste generators, retailers, and local bodies was established, and land for a waste management facility was made available.
4. **3rd Amendment of Plastic waste Management Rules, 2021-** As per this amendment, The Ministry of Environment, Forestry, and Climate Change made the announcement. It mandates EPR. It also encourages the creation of fresh plastic substitutes. Emphasize the recycling of the materials that will be gathered under EPR and the reuse of rigid plastic packaging. Centralized internet platform has been launched. Polluter pays is the basis for environmental compensation.
5. **Single-use Plastic Ban, 2022-** By 2022, all single-use plastics has been banned in India. India spearheaded a resolution in the fourth United Nations Environment Assembly in 2019, recognizing the urgent need for the international community to pay attention to this issue. The Sustainable Development Goals have been proactively included into government plans and policies. By 2024, the United Nations Development Program wants to reduce the amount of plastic garbage that managed in 100 Indian cities. A guidebook model has been created by UNDP and NITI Aayog for using by local municipalities and the commercial sector.

   Single-use plastic items are no longer be produced, sold, or used as of July 1, 2022. Laws that address plastic pollution include the prohibition on single-use plastics and extended producer responsibility standards.

1.8. Single-use Plastic: Concept

Single-use or throwaway plastics are used only once before being discarded or recycled. Plastic bags, straws, coffee stirrers, soda and water bottles, and disposable plastics are examples of these items. Packaging has a high concentration of plastic application that is related to single use plastic. They also account for the majority of manufactured plastics. Single-use plastics (SUP) are more likely to end up in our oceans than reusable alternatives.

1.9. Adverse Effect of Single-use Plastic (SUP) -An example of the issues with throwaway culture is single-use plastics. We frequently place greater value on convenience than long-term effects and

high-quality products that will last. Because of this, we are producing waste at an alarming rate. Half of the 300 million tonnes of plastic produced annually for single-use items. According to the **UNEP research,** 85 percent of SUP goods are disposed of in landfills and other uncontrolled garbage. In India about 43% of manufactured Plastics are used for packaging purpose and most of it belong to Single –use Plastic. **(CPCB, 2017)**

1.10. List of all Banned Single-use Plastic items

1. Ear buds with plastic sticks
2. Plastic sticks for balloons
3. Plastic flags, Plastic Carry bags (Less than 75 Micron)
4. Candy sticks and ice-cream sticks
5. Polystyrene (thermocol) for decoration
6. Plates, cups, glasses, cutlery such as forks, spoons, knives, straw, trays
7. Wrapping or packing films around sweet boxes, invitation cards, and cigarette packets
8. Plastic or PVC banners less than 100 micron, stirrers.

1.11. Value Chain Structure of Single-use Plastic

The visualization shows the Plastic value chain -from extraction of raw material to consumption and disposal. After enforcing the Single-use plastic directive, it is affecting different stakeholders who are involved from SUP Production to Waste Management. Its negative effect can be reflected from the third player in the value chain is the Single use plastic end product manufactures to end-user. For study, Researcher has selected Retailers and Consumers.

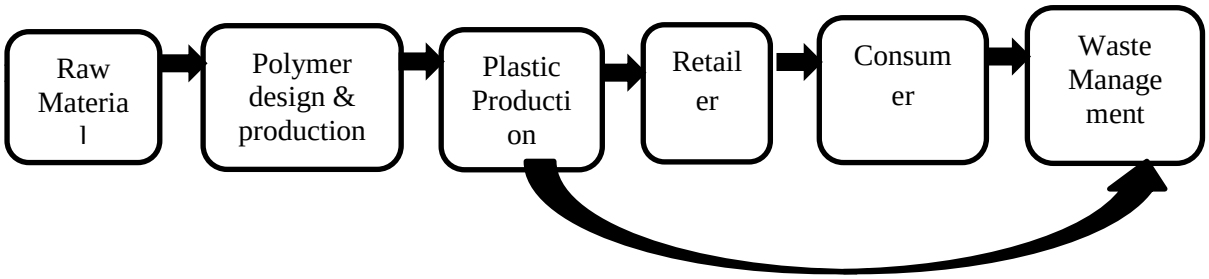

Figure.1: Value Chain of Single-use Plastic

2. REVIEW OF LITERATURE

I. Studies on Role of Policies & Strategies in reducing Plastic Pollution:-

Barrowclough Diana and Carolyn Deere Birkbeck. (14 January, 2022) in their study, attempted to find efficient global policy to address plastic pollution and assessed how opinions and perceptions have changed over time about garbage disposal and marine pollution to focus on the full plastics life cycle. There is need enhancing global environmental cooperation while gaining a deeper comprehension of the political economic implications and problems throughout the life cycle. **Rachel Karassik, Tibor Vegh, Zoie Diana, Janet Bering, Juan Caldas, Amy Pickle, Daniel Rittschof and John Virdin.(2020).**viewed the Government Policies related to the Problem of Global Plastic Pollution during a 20-Year Period. Through monitoring, a global Plastics Policy Database was created, which was based on (1) main sources of data, (2) scientific literature, and (3) media resources. As a result, Plastics Policy Inventory analysis revealed a definite increase trend in the number of global, regional, and national policy to the deal with plastic pollution problem. **Mateo Cordier, Takuro Uehara, Juan Baztan , Bethany Jorgensen, Huijie Yan .(9 December,2020).** In this study, analyzed the influence of corruption and lack of education on Plastic pollution and economic growth. For this purpose, researchers used country-by-country data from the World Bank and then created two models to determine how inadequately managed plastic waste is affected by global economic growth, corruption, market regulations that favour the private sector, geographic location, urbanization, demography, and education. The study revealed that education and corruption control can lower the amount of plastic waste thus they must be included in interventions that are put into practice. **João Pinto da Costa, Catherine Mouneyrac , Mónica Costa , Armando C. Duarte and Teresa Rocha-Santos.(24July,2020).** Observed the role of Legislation, Regulatory Initiatives and Guidelines on the Control of Plastic Pollution. In this study, they reviewed present regulatory instruments with the current suggestions that are based on the most recent scientific findings, as well as the anticipated difficulties that could limit the applicability of such legislative recommendation. It was found that to solve the problem of plastic pollution should develop distinct sets of regulatory mechanism from local to national level.

Solutions and Integrated Strategies for the Controlling of Plastic Pollution was studied ,In this

research, existing methods for managing the life cycle and waste of plastics was discussed and covered stakeholders' ten suggestions for reducing plastic pollution then They came to the conclusion that an integrated waste management system is necessary to improve the life cycle of plastics while lowering their environmental impacts and adhering to the hierarchy of trash management utilizing the four R's: reduce, reuse, recycle, and recover. **Joana C.Prata, AnaL.Patricio Silva, Joao P.da Costa, Catherine Mouneyrac, Tony R.Walker, Armando C.Duarte and Teresa Rocha-Santos. (7July,2019).World Economic Forum, Ellen MacArthur Foundation and McKinsey & Company.(2016).** Pointed out the need to rethink the future of plastics. For this objective, Over 180 expert interviews and a review of more than 200 reports were performed and the total cost of these after-use externalities for plastic packaging, along with the cost of greenhouse gas emissions from production , calculated by UNEP was USD 40 billion that was exceed than profit margin for the plastic packaging sector. By solving these issues, a chance to improve system performance and continue to enjoy the many advantages of plastic packaging.

II. Studies on Role of Stakeholder to reduce Plastic Pollution

Steven Loiselle, Lucy G. Anderson, Stephen Rocliffe, Debbie J. Winton, Luca Marazzi. (14 August, 2020). They considered Consumer-based actions to reduce plastic pollution in rivers. 27 Plastic reductions was found by multi criteria decision making. SWOT analysis was used to analyse the action's feasibility. The best way to reduce plastic pollution was found that (1) refuse unnecessary plastic items like straw (2) lessen reliance on conventional single-use plastic items (3) replace plastic items with reusable alternatives products that have a lower environmental impact (4) properly dispose of items. Hanna Dijkstra, Pieter van Beukering, Roy Brouwer.(7March,2020). investigated the Business models and sustainable plastic management. 44 scientifically documented business models were identified and examined to evaluate the trends, drivers, impediments, and recommendations for future study from the present SPM literature using qualitative meta-analysis approaches. They concluded that sustainable plastic business models primarily focus on recycling (55%) rather than preventing (11%) or reusing plastics (9%), with fewer instances focusing on removing plastic from the environment (16%).

In this study, the costs of plastic pollution globally and how Voluntary Contribution from Industry can

drive the Circular Plastics Economy was discussed.. The circular economy should get off to a fast start thanks to the proposed effort, a voluntary contribution on new FFP production led by the global plastics sector. **Andrew Forrest , Luca Giacovazzi, Sarah Dunlop , Julia Reisser , David Tickler , Alan Jamieson and Jessica J. Meeuwig .(25 September, 2019). Elizabeth Thom. (28 October, 2018).** Tried to study the stakeholder theory to determine their perceptions .Seven randomly selected people were asked to complete a qualitative, in-depth interview questionnaire, and the result was based on customers' perspectives, experiences and attitudes regarding FMCGs' contributions to plastic pollution. Results indicate that consumers believe FMCGs to be unsustainable since they showed that FMCGs have not taken any marketing initiatives to consider the sustainability with keeping in the mind affordability and convenience of Consumer. **Jiuping Xu , Xianglan Jiang and Zhibin Wu. (18 October, 2016).**brought the concept of assessing the Sustainable performance of Plastic Supply Chain Management from a Chinese Perspective. In this study, They developed a hybrid multi-criteria decision making framework to analyse the sustainability criteria and choose alternatives from the perspective of the supply chain then used the suggested methodology to an actual case study of BOPP plastic film manufacturer in China , after that performance criteria weights were determined using a fuzzy analytical hierarchy process (FAHP) and the alternatives were ranked using a fuzzy technique to order performance by similarity. This case study concluded that the economic dimension is the most crucial factor, followed by the environmental and social dimensions.

III. Studies on Plastic Waste Management

NITI Aayog. (2021). In this report, UNDP overviewed the Challenges of Plastic Waste Management and reviewed the Existing Model of Plastic Waste Management, the four parts were identified that make up the process of setting up a PWM model serve as a step-by-step instruction manual for ULBs and each component is supplemented with case studies from all throughout the nation. According to the study's findings, the guidebook described the roles of various stakeholders, ULBs, recyclers, service providers, brand owners and waste pickers in implementing the MRF concept and raised the requirement to formalization of recycling units through registration in accordance with CPCB regulations and the suggestions of trash at generation location. **Central Pollution Control Board.(2021).**This board has presented the Annual Report 2019-20 on implementation of Plastic

Waste Management Rules,2016 and observed the state of the implementation of the Plastic Waste Management Rules in each State/UT. State-by-state data collection and analysis of the Plastic Waste Management action plan revealed variations between the current and desired levels for effective action plan implementation. **Matt Wilson, Nikki Kitson, GSMA, Climate Tech, Andreas Beavor, Mansoor Ali, Josh Palfreman, Naji Makerem, Urban Emerge. (April, 2021).** Examined the particular advantage that plastic companies have in LMICs from utilizing digital products and services or from collaborating with tech companies like mobile network carriers. For this, they recorded international pattern through desk research and stakeholder interviews and discovered that digital technologies, such as mobile apps, mobile payments, artificial intelligence and linked devices have a crucial role to play in enhancing public participation in recycling fostering operational efficiency and enhancing transparency in plastic supply chain**. Balint Horvath, Edmund Mallinguh and Csaba Fogarassy. (21 May, 2018).**Designing Business Solutions for Plastic Waste Management can enhance Circular Transitions in Kenya. They tried to define the degree of circularity in Kenya's plastic waste stream. Circular Economic Value was applied for this. The study made the point that using plastic waste in underdeveloped nations is essential to reducing wasteful energy use and Utilizing secondary raw materials drastically lowers production costs and energy requirements.

IV.Studies on Role of Stakeholders to manage Plastic Waste.

Austine Ofondu, Chinomso Iroegbu , Suprakas Sinha Ray, Vuyelwa Mbarane, Joacarlos Bordado and Jose Paulo Sardinha (23 July, 2021) The Challenges and Opportunities arising due to Plastic Pollution was covered in this study. They compiled and reviewed dozens of publications on various areas of plastic pollution assessment and discussed how plastic pollution affects both living and nonliving elements of ecosystem. The literature that was currently accessible showed how the plastic economy’s entire value chain has to be reviewed in order to ensure a sustainable environment**. Asia Europe Environment Forum.(2021).** In this study, Online Workshop Series on Circular Plastic Use was organized to know background knowledge on the issue of single-use plastic. Information was gathered from a number of reports and research projects. Gaps were discovered at the national level and proposed strategies to prevent plastic pollution after examining all data pertaining to policies.

Farhana Khan, Waqar Ahmed, Arsalan Najmi.(16November,2018). Pointed out the need to

understand the consumers 'behavior intentions towards dealing with the plastic waste in developing country. The purpose of study was to pinpoint the elements that affect consumers' intentions to recycle or return plastic waste. Purposive sampling was used to select valid 243 households from the survey data, which was acquired via a survey questionnaire. On the acquired data, PLS-SEM was used to evaluate several hypotheses. The results of this study showed that subjective norms, awareness of consequences, and convenience are the three main factors that determine the desire to return or recycle. **Jeremy Prepscius, Eileen Gallagher, and Joanna Lovatt. (July, 2018).** Mentioned that what Business can do to prevent Plastic from becoming waste in Asia Pacific. They explored to give a general overview of the difficulties in the Asia Pacific region and suggested viable business waste reduction solutions to stop certain plastic products from ending up in landfills. In collaboration with experts from the public sector, academia, civil society, and the corporate sector, these proposals were created and concluded that in order to overcome these obstacles, the plastics value chain, as well as the public and commercial sectors, must work together.

V.Studies on Barrier in creating Circular Economy

Paletta, A, Leal Filho, W, Balogun, AL, Foschi, E and Bonoli, A. (2019). Investigated the Barriers and challenges to plastics valorization in the context of a circular economy. In order to spur improvements in present manufacturing techniques, they examined a sample of Italian plastics-converting businesses that stand out for dramatic innovations in their business models. In this study,364 companies were taken and conducted surveys between 2012 and 2018. The results offered empirical evidence in favour of a beneficial association between corporate strategies and the utilization of non-virgin plastic resources. **Client earth. (July, 2018).** Pointed out the Plastic Pollution as a material Business risk. It offered a number of best practice suggestions for businesses to control and report their use of plastic. Users and producers of plastic who use it frequently should be aware of the significant commercial risks associated with plastic pollution, manage those risks carefully. It concluded that they should take into account the challenges discussed in this brief such as current company governance, risk management, and transparency policies need to be reviewed.

VI. Studies on Biodegradable Plastic

Moshood D. Taofeeq , Nawanir Gusman, Mahmud Fatimah, Mohamad Fazeeda, Ahmad Mohd

Hanafiah, AbdulGhani Airin.(26 January,2022). In this study, they used a four-step methodology that included identifying the data, screening preliminarily collected data, assessing eligibility and finally including the data. The databases Scopus and Web of Science (classifications and insights) were used by the researchers to construct their results. The study's conclusion was that biodegradable plastics can be used in place of traditional plastics to enhance the environment while simultaneously ensuring the ongoing availability of petroleum resources. .**Greenpeace East India Report.(2020).** Assessed how biodegradable plastics are made, used and handled in various regions of the world and how major businesses promote them. It aided governments in implementing biodegradable plastic policies and taking effective action. It concentrated on establishing criteria thorough certification process, which incorporate laboratory tests that validate the biodegradability claims in practical applications.

VII. Studies on Impact of Single –use Plastic Ban

Ministry of Environment, Forest and Climate Change.(1 July,2022). Presented the report on topic of Ban on Single Use Plastic in India: Step towards Clean India, Green India. The CPCB discovered that the leaching of additives, colorants, stabilizers and fillers present in the various categories of plastic products can cause soil and underground water quality to deteriorate when plastic waste is dumped. This investigation revealed that banning SUP is government-issued standard for managing plastic waste. **Emily Cowan, Andy M.Booth, Andreas Misund, Katja Klun, Ana Rotter, Rachel Tiller.(16 August,2021).** Explored Stakeholder Perspectives on Best Practices for Reducing Plastic Pollution in reference of Single-Use Plastic Bans. In this study, they conducted a recorded workshops and interviews in Slovenia and Norway. The study was carried out immediately following the announcement by the European Union of its Directive banning the most popular single-use plastic products. In both case studies, industry stakeholders were usually more receptive to legislative changes and future innovation, although also emphasized the need for the scientific community to perform more study on pollution issues. **Asphat Muposhi, Mercy Mpinganjira, Marius Wait. (1 March, 2021).**considered the benefits and unintended consequences of banning plastic shopping bags for environmental sustainability. In this study, methodical assessment of the literature was used to determine the benefits, drawbacks, and unanticipated effects of eliminating plastic bags. The review's

findings indicated that a ban on plastic bags would have limited success since there are few acceptable alternatives, the state has lacked the resources to monitor and enforce the ban, there is a booming black market and the plastic industry has possessed structural and instrumental power. The results of this study underlined the necessity of a global treaty to address the temporary nature of plastic bag litter and to move away from the only targeting plastic shopping bags and instead take into account the environmental impact of all types of plastic, including straws, foamed plastics, plastic bottles, and caps. **Tony R Walker, Eamonn McGuinty, Sylvain Charlebois & Janet Music. (2021).** analysed the consumer behavior and perceptions towards banning Single-use plastic packaging in Canadian Food Industry. This study took into account individual motivation factors, Government regulation, and creative approaches to single use plastic food packaging. 1014 customers were asked about their motives for reducing single use plastic waste and willingness to pay premium for sustainable alternatives. Canadian consumers were highly motivated to minimized single-use plastic food packaging, but they were less willing to pay for alternatives, according to study's findings. **Environment Science Technology.(4January,2021).** Tried to find "Five misperceptions surrounding the Environmental impact of Single-use Plastic", Environmental scientists and engineers should incorporate a holistic life cycle assessment perspective into research projects and discussions to influence public policy, according to a study they identified five commonly held perceptions that do not correspond with current scientific knowledge . However, no information regarding distribution of these misconceptions in terms of geography, socio-demographic, generally was provided.

Faranak Sadeghitabar.(2021). Prepared the model to know the Economic Effects of the Proposed Single-Use Plastics Ban on Manufacturing in Ontario. By conducting a private cost-benefit analysis of manufacturers in Ontario, researcher tried to determine the economic effects of the ban on single-use plastics and the effects of switching from traditional plastics to alternative materials on businesses.139 single-use plastics businesses was taken. The analytical model was described, and a number of sensitivity tests were run for a few parameters. **Prajna, Prithvi Shetty and Dr. Umesh Maiya.(23 October,2020).**mentioned the Youth Perception towards Ban of Plastic in references to Udupi City. The results of the poll showed that the majority of respondents use plastic in their daily activities and that everyone is aware of both the benefits and drawbacks of plastic use. In the current

study, primary data were gathered using a 200-person sample size via a structured questionnaire. Most of the respondents in this study agreed that a ban on plastic is a good idea. Most of the responders were ready to utilize the plastic substitutes if they are offered. **Independent Fiscal Office.(June 2020).** studied about economic Impact from regulation of Single-use Plastic. This research evaluated three policy options for regulating plastic retail bags that have been adopted by other states: a ban, a fee, and a ban-plus-fee. According to the data, the fee option was the most effective choice because people were encouraged to reduce their bag consumption rather than being compelled to move to more expensive options, as a result of this, Retailers can continue to supply a sizable demand with LWPBs, the most affordable choice.

Timo Herbert, Claire Y. Barlow and Matthias Finkbeiner. (5 May, 2020). assessed the Sustainability of Single-Use Plastic Ban. For this purpose, A life cycle analysis of single-use plastic and single-use non-plastic alternatives was performed. The two product categories' life cycle impacts were compared and scaled. It was determined that the plastics ban will only have a minor impact on the amount of plastic marine pollution in the world and only partially address the issue. **Phillips, Willard.Thorne, Elizabeth.Roopnarine, Camille.(2020).**researched about economic implications of the ban on single-use plastics in the Caribbean. The potential direct effects on the economy were estimated using a cross-section analysis to be around 0.058% of yearly GDP. The effectiveness of the banking industry has been estimated using translog cost functions. The overall study findings also pointed to the need for a more precisely tailored fiscal incentive structure that might encourage the expansion of the circular economy as a whole. This framework will encourage the monetization of the majority of waste types, lower trash output, promote recycling, and sanction careless disposal. **Prof. Moloy Ghoshal. (January 2020).** Prepared a research report on Single-use Plastic carry bags and its impact on environment in city Delhi. In order to determine the common people's use and re-use of plastic carry bags in North West Delhi and their level of environmental awareness, a survey was carried out. The survey's findings showed that most respondents, regardless of their demographic features, are fully aware of the negative effects plastic has on the environment. Most of them were reported to be willing to carry bags made of jute or cotton. **M.R.S.Murthy & K Syamala.(2020).** examined the ECONOMY V. ENVIRONMENT, Single Use Plastic (SUP) Ban in India. They

examined the government of India's policy on the ban on SUPs, economic expansion, environmental preservation and sustainable development. As a response, Extended Producers Responsibility has been introduced, which will allow recycling units to import plastic waste in SEZ while also raising consumer knowledge of SUP handling. **Lawrence Sustainability Advisory Board.(12 June,2019).** Overviewed the Single–use Plastic Policy & its recommendation. This report's objectives were to provide the result on single-use plastics and to set the stage for policy suggestions. In the end, the subcommittee came up with three measures to assess the single-use plastics problem and advised that the City of Lawrence should implement a fee-based programme as the best practical way to reduce the use of plastic bags. **Ms Poonkodi , Research scholar, Women's Christian College.(2019).** Studied about impact of single-use plastic on small vendors in Chennai. This purpose of this study was to determine how Chennai's shopkeepers would be affected by the plastic ban, as well as their attitudes and reactions to it. The implementation of Chennai's plastic ban by government entities is also examined in this study. The results of this study show that the ban on plastic bags was quite successful in several parts of Chennai. Small vendors have begun to use substitutes. However, they have encountered issues such as excessive prices charged for alternatives, a lack of available alternatives, complicated and awkward packaging, and customer complaints about sustainable packaging. **Nilofur Banu, Department of Community Medicine, Shri Sathya Sai Medical College and Research Institute, Thiruporur, Tamil Nadu, India.(2019).** Took a narrative reviewed on Single-use Plastic Ban and its Public Health Impacts. This report explored several policies and solutions. A literature was reviewed to evaluate the present ban and policies that make them successful. High levies, strict enforcement and individual behavior were having an impact on the reduction of SUP, while a lack of constant vigilance, Industry self-regulation and illegal Sup production had prevented various bans and levies from having an impact. **UNEP (2018).** Presented a roadmap on Single-use Plastic for Sustainability. This paper examined the efforts made at the national and local levels by firms, organisations, and people to reduce the usage of single-use plastics. It provided insights that could be helpful to decision-makers who are thinking about controlling the manufacturing and usage of single-use plastics. This study came to the conclusion that governments need to implement strong legislation that push for a more circular model of plastics design and production, as well as enhance waste

management and financial incentives to modify consumer, store and producer habits.

3. Research Gap of the Study

- After studying the related literature in this area, the researcher has found that majority of the studies have been done in the area of –

(1) Plastic Waste Management (2) SUP Ban and its impact on Health & Environment (3) Government response to Plastic Pollution ,but not specifically about examining the status of Implementation of SUP Ban.

- No research has been carried out to study the Socio-Economic impact after implementing the SUP Ban.
- Few no. of the studies have analysed the response of small vendors towards SUP Ban but Retailers have not taken into consideration yet.
- In addition to the above gaps, State of Uttar Pradesh has not been taken for detailed research study in spite of having largest population. On the other hand, the wide ranges of urban local bodies are set up in this state.

4. Need of the Study

1. **Evaluation of Government's implementation strategy & legislative framework for SUP Ban-** In order to quickly improve strategies and the legal framework, it is urgent to assess the government's action plan regarding the SUP Ban and identify its flaws. The earlier studies only observed the function of legislation, regulatory initiatives, and guidelines on the control of plastic pollution; the Indian Government's strategy has not yet been evaluated. (**João Pinto da Costa, Catherine Mouneyrac , Mónica Costa , Armando C. Duarte and Teresa Rocha-Santos.(24July,2020). Lawrence Sustainability Advisory Board. (12 June, 2019).** Overviewed the Single–use Plastic Policy & its recommendation in city of Lawrence.
2. **Having knowledge about extent of successfully implementation of Single-use Plastic Ban-** For getting the desired results from Ban, It is important to know the current state of implementation because it will give an overview of the progress being made in implementing the SUP Directives. Without adequate planning and monitoring, policies lose their purpose and become ineffective.

Researcher has discovered that no prior research was done to determine the status of implementation; rather, some studies were done to determine the perception of consumers towards ban. **Prajna, Prithvi Shetty and Dr. Umesh Maiya.(23 October,2020).**mentioned the consumer Perception towards Ban of Plastic in references to Udupi City.

3. **Consideration of Plastic Retailers into research-** There is no research available which taken into consideration of Plastic retailers. Numerous studies have taken into account consumers, small vendors, and manufacturers. **Tony R Walker, Eamonn McGuinty, Sylvain Charlebois & Janet Music. (2021).** analysed the consumer behavior and perceptions towards banning Single-use plastic packaging in Canadian Food Industry. **Ms Poonkodi , Research scholar, Women's Christian College.(2019).** Studied about impact of single-use plastic ban on small vendors in Chennai.
4. **Reduce the socio-economic challenges being faced by Plastic Retailers after Ban-** After enacting the prohibition, Plastic retailers are facing challenges in terms of socio economic. The next step is to take into account their problems and offer some solutions. Other researchers measured the economic and social impact because the socio-economic impact of the ban was not considered in previous studies. **Nilofur Banu, Department of Community Medicine, Shri Sathya Sai Medical College and Research Institute, Thiruporur, Tamil Nadu, India.(2019).** Took a narrative reviewed on Single-use Plastic Ban and its Public Health Impacts. **Faranak Sadeghitabar.(2021).** Prepared the model to know the Economic Effects of the Proposed Single-Use Plastics Ban on Manufacturing in Ontario.
5. **Lack of in-depth study of Uttar Pradesh in terms of SUP Directives-** As we know, that Uttar Pradesh has highest potential of generating plastic waste because it is highest populous state but still no extensive study has not been conducted in this state. It is essential to conduct research in selected cities of Uttar Pradesh. **Ms Poonkodi , Research scholar, Women's Christian College.(2019).** Studied about impact of single-use plastic on small vendors in Chennai. **Prof. Moloy Ghoshal. (January 2020).** Prepared a research report on Single-use Plastic carry bags and its impact on environment in city Delhi.

5. Objectives of the Study

1. To study the existing legislative framework of Single-use Plastic Ban in India & its implementation

strategy.

2. To analyse the status of Single-use Plastic Directive implementation in selected cities of Uttar Pradesh.
3. To investigate the Socio-Economic impact of Ban on Plastic Retailers.
4. To construct the action plan for resolving the issues effectively pertaining to SUP Ban.

6. Scope of this Study

SUP Ban is one of the government's efforts to decrease Plastic Pollution. In this study, to examine the implementation of this Directive, Plastic Retailers, Consumers and Government Officials will be included as Respondent & Information Provider. For knowing the socio-economic impact of ban, Researcher has selected Single-use Plastic Retailers. The study's geographical scope is restricted to selected cities of Uttar Pradesh. Lucknow, Kanpur and Agra have been selected for study.

7. Research Design & Research Methodology

Table 3: Research Design & Research Methodology

S. No.	PARAMETERS	DESCRIPTION
1.	Research Design	Exploratory Study
2.	Sample Method	Snowball Sampling Method
3.	Sample Size	1645 Respondents
4.	Sample Elements	Respondents(Retailers,Consumer,Government Officials)
5.	Sample Area	Uttar Pradesh
6.	Sample units	Lucknow, Kanpur, Agra
7.	Research Approach	Websites, Journal ,Report, Thesis, Newspaper Published Records.
8.	Research Instrument and Contact Method	Interview, Questionnaire & Schedule will be used for Data Collection
9.	Data Collection	Primary and Secondary Data

7.1. Selection of Sample Area

As mentioned above in Research gap, Uttar Pradesh is most populous state of India and its Plastic waste generation is also high. Therefore, this study will be conducted in selected cities of Uttar Pradesh. For this purpose, **Kanpur** has been selected due to highest plastic waste generation per day in the state. Apart from this, it is an industrial city and has established India's first Plastic waste Park. The reason of selecting **Lucknow**, it is the capital of Uttar Pradesh & other than this, it is involved in various plastic waste management projects like RACE Campaign, establishing Bio-CNG Plant .In

addition to this, **Agra** has taken as third city for study because it is the city of Taj (Seven Wonders of World) is known as Heritage city, so the No. of Domestic and International Tourists are very high throughout the year. Its plastic consumption per day is at 3rd place in state and has also signed a memorandum of understanding with Technology & Action for Rural Advancement to end plastic waste. As a result, **Kanpur, Lucknow & Agra** have been selected.

Table. 4: Description of cities

S. No.	Name of City	Plastic Waste (Tonnes Per Day)	Population
1.	Kanpur	106.66	3812000
2.	Lucknow	70.84	3884000
3.	Agra	40.89	2185000

(Source: - CPCB, 2015-16)

7.2. SAMPLE DETAILS

- **Selection of Government Officials as Respondents**

In this study, for examining the status of implementation of SUP Ban & its strategies, Data will be collected from Government Officials. The implementation of the SUP Ban is being performed by the Municipal Corporation at local level. Therefore, Municipal Corporation has been chosen as a result. To accomplish this, the Municipal Corporation's Swachh Bharat Mission (SBM) has been working. For the current study, the researcher will include all SBM staff and other associated employees of Nagar Nigam as the respondents.

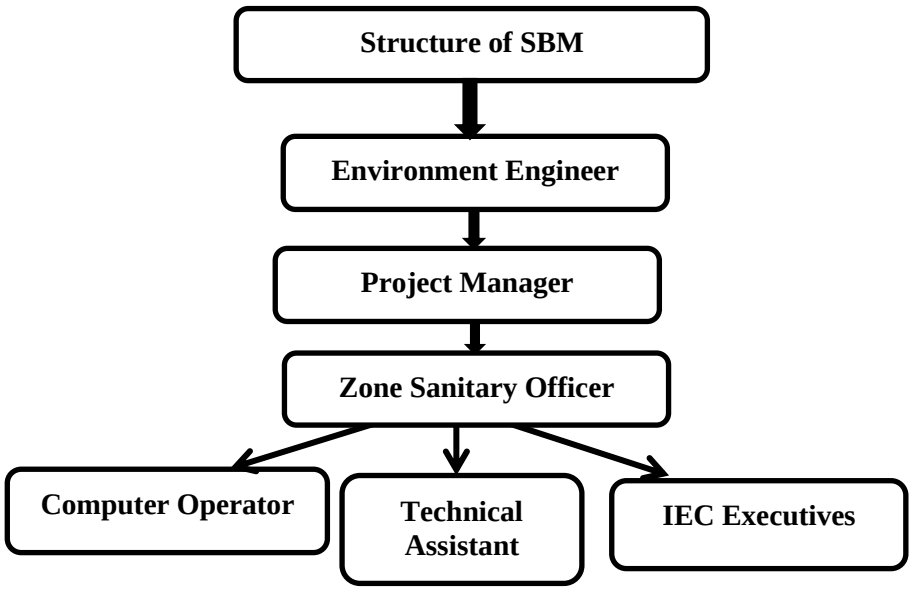

Figure.2: Structure of Employees of SBM

Table.5: No. of Staff members

S. No.	Staff Members	Lucknow	Kanpur	Agra
1.	Environment Engineer	1	1	1
2.	Project Manager	1	1	1
3.	Zone Sanitary Officer	8	6	4
4.	Technical Assistant	1	1	1
5.	IEC Executive	4	4	4
6.	Computer Operator	2	2	2
	Total	**17**	**15**	**13**

(Source: - Survey of Municipal Corporation)

- **Selection of Consumers as Respondents**

For study purpose, Consumers have been selected as the respondent. Researcher has calculated sample size as per zones of city.

This table contains information about zones of Agra. These zones are spread over in 100 Wards of Agra City. For the study purpose, the researcher will select no. of wards on basis of large population. This study will be conducted in 12 wards out of 100 wards spread over in 4 Zones in Agra City. Regarding the size of the respondents, **400 consumers** will be selected on basis of Stratified sampling.

Table.6: No. of Wards of Agra City (Zone wise)

S No.	Name of the Zone	No. of Wards	No. of Wards selected	Sample size
1.	Hariparvat	25	03	100
2.	Lohamandi	25	03	80
3.	Tajganj	25	03	100
4.	Chhata	25	03	120
	Total	**100**	**12**	**400**

(Source: www. Nagarnigamagra.com)

This table contains information about zones of Kanpur. These zones are spread over in 110 Wards of Kanpur. This study will be conducted in 12 wards out of 110 wards spread over in 6 Zones in Kanpur. Regarding the size of the respondents, **500 consumers** will be selected on basis of Stratified sampling.

Table.7: No. of Wards of Kanpur (Zone wise)

S No.	Name of the Zone	No. of Wards	No. of Wards Selected	Sample size
1.	Krishna Nagar	21	02	90
2.	Kidwai Nagar	18	02	100
3	Civil Line	18	02	90
4.	Lajpat Nagar	20	02	70
5.	Motizheel	15	02	80
6.	Govind Nagar	18	02	70
	Total	**110**	**12**	**500**

(Source: www.Nagarnigamkanpur.com)

This table contains information about zones of Lucknow. These zones are spread over in 110 Wards of. This study will be conducted in 10 wards out of 110 wards spread over in 8 Zones in Lucknow. Regarding the size of respondents, **600 consumers** will be selected on basis of Stratified sampling.

Table.8: No. of Wards of Lucknow (Zone wise)

S No.	Name of the Zone	No. of Wards	No. of Wards selected	Sample size
1.	Lalbagh	14	1	80
2.	Aishbagh	13	1	50
3.	Kapurthala	17	1	60
4.	Gomti Nagar	9	1	80
5.	Alambagh	11	1	70
6.	Newazganj	22	2	90
7.	Indira Nagar	12	2	90
8.	Bangla Bazaar	12	1	80
	Total	**110**	**10**	**600**

(Source: www.Nagarnigamlucknow.com)

Total 1500 Consumers have been selected for purpose of research among the selected cities.

➢**Selection of Plastic Retailers as Respondents**

In proposed study, the Universe of Retailers is unknown. For estimating the sample size in unknown population, researcher has conducted the pilot study and also obtained the data from All India Plastic Manufactures Association (AIPMA) to determine the number of Plastic retailers in selected cities in Uttar Pradesh. On the basis of mentioned method, Total sample size of retailers is 100.

Table. 9: No. of Plastic Retailers

S No.	Cities	No. of Retailers
1.	Lucknow	35
2.	Kanpur	35
3.	Agra	30
	Total	**100**

(Source: Survey by researcher in November, 2022, AIPMA)

Process of selecting Retailers through Snowball Sampling –

Here, the population of retailers is unknown and infrequent, the researcher will use snowball sampling to choose the retailers. This is how the researcher will create a sample of retailers: initial respondents are chosen at random, but additional respondents are then recommended by initial respondents.

Steps in selecting retailers-

1. Identify one or two initial retailers in population through own survey and AIPMA.
2. Ask them to provide information about other retailers who exhibit the same characteristics in study.

3. Next, request information from those retailers about additional retailers.

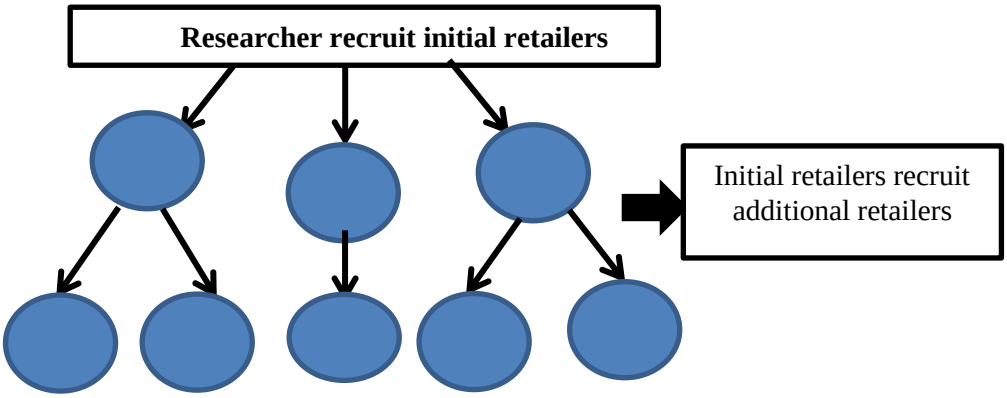

Figure.3: Process of Selecting Retailers

- **Total no. of Respondents**

Plastic Retailers, Consumers & Government Officials have been selected as respondents to fulfill the purpose of the study.

Table.10: Total no. of respondents

S No.	Cities	Retailers	Consumers	Government Officials	Total
1.	Lucknow	35	600	17	**652**
2.	Kanpur	35	500	15	**550**
3.	Agra	30	400	13	**443**
	Total	**100**	**1500**	**45**	**1645**

7.3. Duration of the Study

Researcher will cover this study from Year 2021 onwards in order to achieve the study's objectives.

7.4. Conceptual Framework of Parameters -

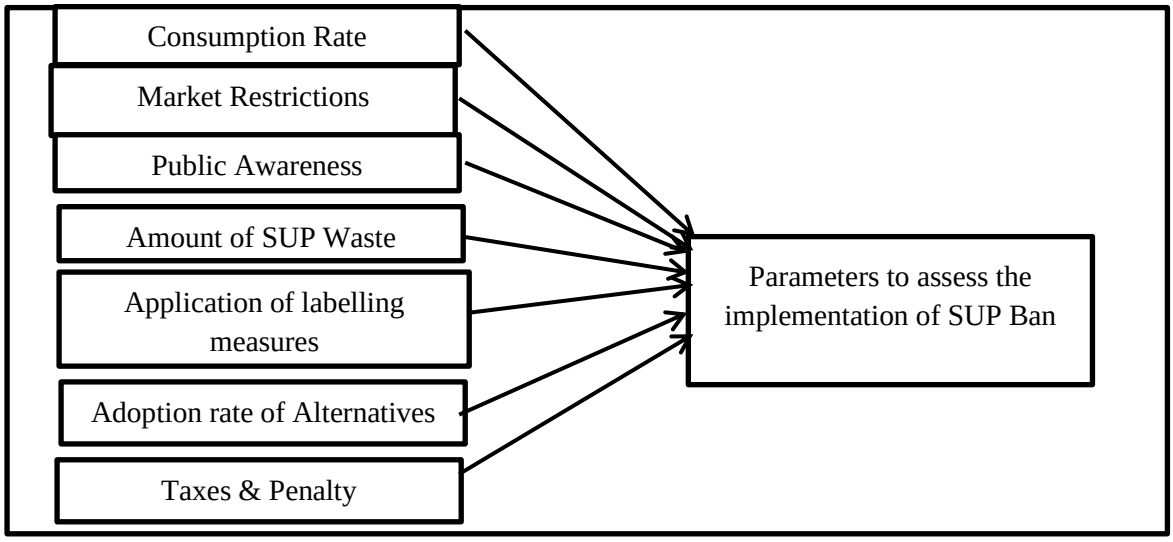

Figure.4: Description of Parameters

7.5. Variables of the Study

The following figure shows the Independent and Dependent variable included in this study. Researcher has assumed Single-use Plastic Ban as Independent Variable and Socio-Economic Impact on SUP Retailers as Dependent Variable.

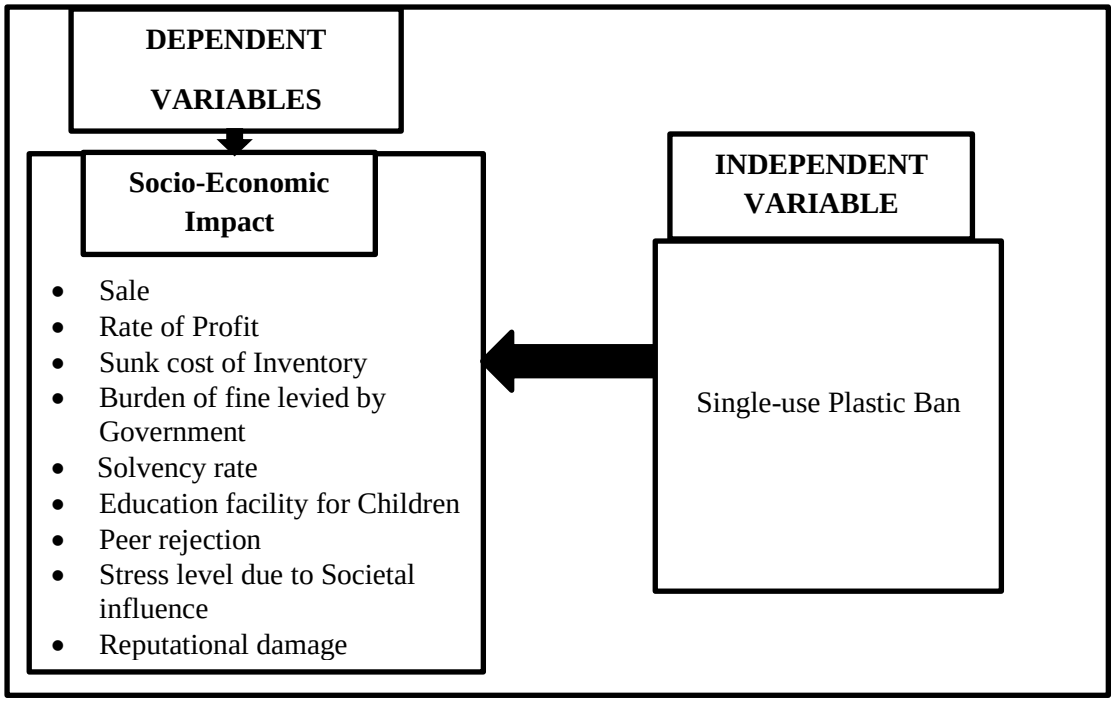

Figure.5: Details of Variables

8. Source of Data

The nature of study is such that it requires both primary as well as secondary data to attain the objectives of the study

Primary Data

In this research, to collect primary data, Questionnaire, schedule and interview will be used. Government Officials will be personally interviewed to know more about their implementation strategies of the Sup Ban and Questionnaire will be prepared by the researcher in order to know response of Consumers towards the SUP Ban. This exploratory study deals with socio-economic impact on Retailers after implementing SUP Ban, for this Schedule will be used to collect the data from them.

Secondary Data

The Secondary Data will be collected from:-

- Ministry of Petroleum and Natural Gas
- Ministry of Environment, Forest and Climate Change
- Niti Aayog, UNEP,UNEA and UNDP, CPCB, India Plastic Directory ,UPPCB& AIPMA
- Newspaper (Hindustan Times, Times of India and Economic Times).
- Different researches, Published Research Paper & Articles, Thesis, Journals.
- Related Websites

9. Specific Research Methodology

To accomplish objectives of the study, researcher will use the following Specific Research Methodology mentioned below in tabular form:-

Table11: Specific Research Methodology

S.No.	Objectives	Methodology to be Followed
1.	To study the existing legislative framework of Single-use Plastic Ban in India & its implementation strategies.	For achieving this objective, the researcher will collect the data from Government Officials through Interview. Reports, Newspaper and Official websites related to existing legislative framework of SUP Ban will be studied to know background & Implementation strategies.
2.	To analyse the status of Single-use Plastic Directive implementation in selected cities of Uttar Pradesh.	Questionnaire will be prepared to collect the response of consumers towards the ban and researcher will use schedule to collect the information from Retailers involved in Plastic supply chain, so that an assessment of the implementation can be made while taking into account various stakeholder's perspective and also will use secondary data from report of ministries, Institutions & Published research Paper, Article.
3.	To investigate the Socio-Economic impact of Ban on Plastic Retailers.	Schedule will be used to gather the data needed for this reference in order to find the difficulties Plastic Retailers are facing.
4.	To construct one action plan for resolving the issues pertaining to SUP Ban effectively.	Based on the analysis, an action plan of suggestive measures will be formulated which can be helpful in effective implementation of Single-use Plastic Ban.

10.Statistical Tools for Analysis

The research work will be both quantitative and qualitative in nature. Therefore, in order to analyse the collected data, mean, Standard deviation, Trend Analysis, Factor Analysis, Regression Analysis , Cluster Analysis will be used.

11. Implications of the study

This research will examine the status of implementation of the Single-use Plastic Directive based on some parameters; the findings will be useful to policymakers in understanding the progress of enforcement so that they can improve their implementation strategies to ensure success. This study will also help to know the socioeconomic challenges that SUP Retailers face as a result of the ban. The analysis will make the government aware of the problems of retailers & consumers and allow the government to introduce solutions to their problems. Only after that objective of Sup ban can be achieved and also expand the job opportunities in the biodegradable alternative sector.

12. Proposed Chapter Plan of the Study

CHAPTER-1 - Introduction

CHAPTER-2 - Review of Literature, Research Gap & Need of the study

CHAPTER-3 - Research Design & Methodology

CHAPTER-4 - Data Analysis & Interpretation

CHAPTER-5 - Finding, Conclusion & Suggestions

CHAPTER-6 - References & Bibliography

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APPENDIX

Description of Agra City

S No.	Name of Zones	Name of Wards
1.	**Hariparvat**	Jagdish pura East, Charsu Darwaja, Nagala Harmukh, Jagdeshwar Nagar, Khandari, Loyars Coloni, Gailana, Ghatwasan, Ghatiya, Ajam Khan, Vijay Nagar, Dev nagar, Lohiya Nagar, Sarlabagh, NaglaPadi, Sikandra, Jatpura, Kamla Nagar, Bhim Nagar, Kaveri kunj, Bhud ka Bagh, Balkeshwar, Wazir Pura, Kamla Nagar, Bagh Farjana, Maharishi Puram.
2.	**Lohamandi**	Jagdish Pura west, Khataina, Ghas ki mandi, Prakash Nagar, Nagala Mohan, Raj Nagar, Gadhi Bhadauriya, Bhogi pura, Nagla Ajeeta, Ajampada, Ashok Nagar, Avas Vikas East, Rahul Nagar Bodla, Albatiya, Awas Vikas South, Jaipur House, Awas Vikas Pachimi, Raja Mandi, Khati Para, Ram Mohan Nagar, Shastri Puram, Barah Khambha, Ajeet Nagar, Ram nagar, Dhakran, Kedar nagar.
3.	**Tajganj**	Gummat Takht, Pahlwan, Sewala Jat, Himachal Colony, Edgah, Saray, Maluk Chand, Bundoo Katra, Sauhalla, Mohan Pura, Dhandoo Pura, Mustfa Pura, Mahadev Nagar, Naam ner, Baluganj, Katra Fulail,Nari Pura, Ukhrra, Khuwash Pura, Teli Para, Chawli, Taj firozkhan, Nagla Mewati, Shaheed Nagar, Harjjupura, Gover Chawki, Vibhav Nagar
4,	**Chhata**	Kajipadha, Kachh pura, Ratan pura, Freeganj, Bag Mujaffar Khan, Nai ki Saray, Bhagwati Bagh, Seeta Nagar, Mantola , Trans Yamuna, Shahdra, Naraich West, Naraich east, Belanganj, Yamuna par Prakash Nagar, Nawal Ganj, Moti Ganj, Tedi BAGIYA, Pipal Mandi, Nuri Darwaja, Dera Saras, Rawat Para, Dhankot Fubbara, Nai ki Mandi, Dolikhar

Description of Kanpur

S No.	Name of Zones	Name of Wards
1.	**Civil Line**	Laxmi Purwa, Rai Purwa, Anwar ganj, Sisamau, Harbansh Mohal, Civil Lines, Chattai Mohal, Dalel Purwa, Cooper ganj, Danakhori, Patkapur, Maheshawari , Chowk Sarrafa, Prade, General Ganj, Collector Ganj, Chaman Ganj, Nazir Bagh.
2.	**Krishna Nagar**	Safipur, Chakeri, Hans Puram Awas Vikas, Krishna Nagar, Gandhi gram, Harjinder Nagar, Om purwa, Sanigawan, Hans Puram, Yashoda Nagar East, Daheli Sujanpur Kda Colony, Tiwaripur, Swarda Jayanti Vihar, Naubasta, Pashupanti Nagar, Rajeev Nagar, Jajmau, Shyam Nagar, Yashoda Nagar west, Chandari.
3.	**Kidwai Nagar**	Sabji Mandi Kidwai Nagar, Usmanpur, Khandipur, Ajeet Ganj, Juhi Hamirpur Road, Transport nagar, Naubasta East, Karrhi, Barra North, Babu Purwa Colony, Jarauli, Juhi Kala, Bingawan, Basant Nagar, Kidwai nagar South, Kidwai Nagar North, Begam purwa, Baboo Purwa.
4.	**Motizheel**	Chunni Ganj, Gwaltoli, Jawahar Nagar, Behna Jhabhar, Old Kanpur, Mecrobert Ganj, Ashok nagar, Permat, Gandhi Nagar, Sisamau North, Tilak Nagar, Suther Ganj, Becon Ganj, Talak Mohal, Colnel Ganj.

5.	**Govind Nagar**	Govind Nagar Harijan Basti, Bhannanapurwa, Nirala Nagar, Juhi, Ravidas Puram, Fazal ganj, Ratan lal Nagar, World Bank Barra, Govind Nagar South, Panki, Barra, Saraimita, Gujain Colony, Swaraj Nagar, Barra west, Kaushal Puri, Govind Nagar North.
6.	**Lajpat Nagar**	Maswanpur, Naramau, Kayanpur Suth, Kalyanpur Awas Vikas, Naveen Nagar, Vijay Nagar, Kayanpur North, Vishnupuri, Nawabganj, khroya, Gita Nagar, Binayakpur, Rawat pur, Sarvdaya Nagar, Sarojini Nagar, Lajpat Nagar, Kakadeo, Hariharnath Shastri nagar,

Description of Lucknow

S No.	Name of Zones	Name of Wards
1.	**Lalbagh**	Gola Ganj Pirjaleel, Maulvi Ganj, Babu Banarasi Das, Mahatma Gandhi ward, Hazratganj, Lalkunwa, Vikrmaditya , Yadunath Sanyal, Rani Lakshmi Bai, Ram mhan rai, Jagdish Chandra Bose, Mashk ganj, Basheerganj, Nazarbagh, Ganeshganj
2.	**Aishbagh**	Rajaji Puram, Hardin Rai, Maviya Nagar, Kunwar Jyti Prasad, Ambedkar Nagar, Labour Colony, Rajendra Nagar, Aishbagh, Yahiya Ganj, Chandra Bhanu, Gupa-Motilal, Nehru , Tilak Nagar, Kundri Raqabganj, Raja Bazar
3.	**Kapurthala**	Ayodhya Das 1&2, Daliganj, Nirala Nagar, Mankameshwar, Kadam Rasool , begum Hazrat Mahal, Faizullahganj 1, Mahanagar, Aki Ganj, Lajpat Rai, Faizullahabad 2&3, Bhartendu Harish Chandra, Jankipuram , Jai Shankar prasad, Faizullahganj 4, Trivedi Nagar.
4.	**Gomti Nagar**	Rajiv gandhi 2, Colvin College- Nishantganj, Chinhat 2, Rafi Ahmad Kidwai, Paper Mill colony, Chinhat 1, Gomti Nagar, Rajiv Gandhi 1.
5.	**Alambagh**	Sarojini Nagar 1, Babu Kunj Bihari, Chitragupt nagar, Gurunanak Nagar, Om Nagar, Geeta Palli, Sarojini Nagar2, Keshri Kheda, Ramji Lal Nagar, Sardar Pate Nagarm, Guru Govind Singh
6.	**Newazganj**	Amberganj, New Haidarganj 1, Maulana Kalbey Abeed 2, Mallahi Tola 1, Alam Nagar, Daulat Ganj, Asharfa Bad, Sheetla Devi, Kanhaiya Madhopur 1, New Haidarganj 2 & 3, Gadi Pir Khan, Maulana Kalbey Abeed, Bala Ganj, Kashmiri Mohalla, Tola 2, Husaunabad, Acharya Narendra Dev, Sadatganj, Kanhaiya Madhopur 2, Chwk kali ji Bazar, Bhawani ganj
7.	**Indira nagar**	Lal bahadur Shastri 1, Shankar purwa, Babu Jagjeevan ram, Ismallganj 2, Mauthll Sharan Gupt, Indra Priydarshani, Ismailganj 1, Shankarpurwa, Lohiya Nagar, Shaheed Bhagat Singh, Shankar Purwa 1.
8.	**Bangla Bazaar**	Kharika 1&2, Sharda Nagar 1& 2, Vidyawati 2&3, Hind Nagar, Raja Bijli Pasi 1& 2, Ibrahimpur 1& 2